



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,996	02/28/2002	Dale R. Langner	1528.027US1	6341

21186 7590 05/30/2003

SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER

TRIEU, VAN THANH

ART UNIT	PAPER NUMBER
----------	--------------

2632

DATE MAILED: 05/30/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

h

Office Action Summary

Application No.

10/086,996

Applicant(s)

LANGNER ET AL.

Examiner

Van T Trieu

Art Unit

2632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in the specification, page 1, first paragraph, lines 4-16, the blank spaces "_____" should be filled.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1, 4, 7-10, 13, 14, 16, 17, 20 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by **Adams et al** [US 6,314,343].

Regarding claim 1, the claimed display (display screen 4 having a plurality of display screen regions/fields 19 and 20 that are activated by bezel soft key bank 6, see Figs. 1 and 1-4, col. 1, lines 55-60, col. 4, lines 42-66); and the label display region (the labels/fields 1-16 are adjacent to one of the soft key banks 6 and 8, see Figs. 1 and 2, col. 2, lines 25-36 and col. 6, lines 42-48); and the plurality of views are selectable within one or more of the numbers of displayable regions (the display screen is operable

to display a plurality of different flight mode selections by one or more of the soft keys banks 6 and 8, and to be displayed on the display regions 19 and 20, see Figs. 1 and 2, col. 1, lines 5-65, col. 5, lines 10-65 and col. 6, lines 1-18).

Regarding claim 4, all the claimed subject matters are cited in respect to claim 1 above, the display screen 4, see Figs. 1-4, 6 and 7.

Regarding claim 7, all the claimed subject matters are cited in respect to claim 1 above, wherein the display fields 19 and 20 for displaying text message data, see Fig. 2.

Regarding claim 8, all the claimed subject matters are cited in respect to claim 1 above, and including the aircraft sensors 34, see Fig. 1, col. 2, lines 30-36 and col. 4, lines 10-41.

Regarding claim 9, all the claimed subject matters are cited in respect to claim 8 above, and including at least one of the aircraft engine readings and flight control computer settings, see Fig. 1.

Regarding claim 10, all the claimed subject matters are cited in respect to claim 8 above, and including the hard wire switches 40, 42, 44 and 46, see Fig. 2.

Regarding claim 13, all the claimed subject matters are cited in respect to claim 8 above, wherein the texture in the fields are uniquely identified by the pilot.

Regarding claim 14, all the claimed subject matters are cited in respect to claim 8 above, and including the display field for reminding pilot to take action, see Fig. 2, col.

Regarding claim 16, the method claimed limitations are met by the subject matters in the apparatus claim 8 above.

Regarding claim 17, all the claimed subject matters are cited in respect to claims 16 and 16 above.

Regarding claim 20, all the claimed subject matters are cited in respect to claims 16 and 16 above, wherein the aircraft data and/or messages in each of the display fields can be selected and changed by the pilot's desired.

Regarding claim 21, all the claimed subject matters are cited in respect to claims 16 and 16 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 2, 3, 11, 12, 18 and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Adams et al** [US 6,314,343] in view of **Briffe et al** [US 6,057,786]. Regarding claim 2, **Adams et al** fails to disclose one or more overlay regions operable to present dynamic images overlaid on top of one another, wherein a number of overlay regions reside within one or more of the number of displayable regions. However, **Adams et al** teaches that the display screen 4 is for displaying a plurality of different flight mode selections and including a plurality of data information, menu and messages for controlling and operating of the flight by a plurality of pilot message fields 99 and 100 via soft keys and labels, see Figs. 1-4, col. 1, lines 55-67, col. 3, lines 23-65, col. 5, lines 1-67 and col. 6, lines 1-67. **Briffe et al** suggests that an aircraft display and control system comprising a plurality of display devices 16, 18, 20, 22 and heads-up display 32 for displaying of flight information and geographic data. The system includes

a plurality of soft key buttons 82a-82f and labels and/or trackballs 44 and 48. The heads-up display 32 receives indicator signals and using the indicator signals to generate a conformal indicator image superimposed on a pilot's view through the cockpit windshield, including selection of a weather radar image to be superimposed/overlaid on the situation display, see Fig. 1-3 and 5, col. 2, lines 62-67, col. 3, lines 1-3, col. 6, lines 50-67 and col. 9, lines 1-10. Therefore, it would have been obvious to one of skill in the art at the time the invention was made to substitute the display devices of **Briffe et al** for the display screen of **Adams et al** because the superimposed or overlaid images on the display devices are easily observed and recognized by a pilot for command and control the flight.

Regarding claim 3, all the claimed subject matters are discussed between **Adams et al** and **Briffe et al** in respect to claims 1 and 2 above, wherein the dynamic images are weather conditions.

Regarding claim 11, all the claimed subject matters are discussed between **Adams et al** and **Briffe et al** in respect to claims 2 and 8 above.

Regarding claim 12, all the claimed subject matters are discussed between **Adams et al** and **Briffe et al** in respect to claims 8 and 11 above.

Art Unit: 2632

Regarding claim 18, **Adams et al** fails to disclose the flight data are represented in a three-dimensional format on the display. However, **Adams et al** teaches that the aircraft flight data information are displayed on a two-dimensional display 4, see Figs. 1-4, col. 1, lines 55-67 and col. 2, lines 1-36. **Briffe et al** suggests that an aircraft display and control system comprising a plurality of display devices 16, 18, 20, 22 and heads-up display 32 for displaying of flight information and geographic data in a three-dimensional image of the next waypoint in the flight plan, see Figs. 1-3, col. 2, lines 62-67, col. 3, lines 1-3 and col. 10, lines 32-41. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the heads-up display of **Briffe et al** for the display screen of **Adams et al** in order to provide three-dimensional format which gives the pilot comfortable and easily identify of the data information of the flight.

Regarding claims 22-27, all the claimed subject matters are discussed between **Adams et al** and **Briffe et al** in respect to claims 2 and 8 above, wherein the display fields 1-16, 19 and 20 are configured to display of specific data information in respect to the selected soft keys/buttons 40-74, see Figs. 1-4.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Adams et al** [US 6,314,343] in view of **Walker** [US 6,279,017].

Regarding claim 5, **Adams et al** fails to disclose the displayable regions are pop-up windows. However, **Adams et al** teaches that the display screen 4 including a plurality

of display screen regions/fields 1-16, 19 and 20 that are activated by bezel soft key banks 6 and 8 for displaying selection flight modes and text data information, see Figs. 1 and 1-4, col. 1, lines 55-67, col. 2, lines 1-36, col. 4, lines 42-67 and col. 5, lines 1-43. **Walker** suggests that a text enhancement method and apparatus for improved human reading comprises a text display for displaying of selected tagged word. The tagged word displays a pop-up window containing the definition or drawing, for use as aircraft heads-up display, see col. 1, lines 18-20 and col. 9, lines 54-61. Therefore, it would have been obvious to one of ordinary skill in the art at the time the inventions were made to substitute the pop-up window of **Walker** for the display fields of **Adams et al** since the text messages are pop-up whenever it has been selected by a pilot, and to provide additional messages or helps to verify that message to the pilot, which prevents miss reading of data information.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Adams et al** [US 6,314,343] in view of **Robinson et al** [US 4,651,282].

Regarding claim 15, **Adams et al** fails to disclose the audio panel including one or more audio controls operable to adjust the quality and volume associated with audio data.

However, **Adams et al** teaches that the visual display screen 4 with a plurality of display fields 1-16, 19 and 20 are adapted to display messages and selected data information to a pilot, see Figs. 1-4, col. 1, lines 55-67, col. 2, lines 1-36, col. 4, lines 42-67 and col. 5, lines 1-43. **Robinson et al** suggests that an airborne navigation and communication system includes a communication transceiver with a control 18 and displays 28 and 30.

The communication system includes an audio squelch circuitry and the multifunction mode selection switch comprises a push/button switch 32 for selectively enabling and disabling the audio squelch circuitry. A potentiometer 313 is for adjusting the volume of a transmission being monitored through the receiver head-set, see Figs. 1, 2 and 4, col. 1, lines 61-67, col. 2, lines 1-11, col. 4, lines 50-63, col. 11, lines 39-63 and col. 15, lines 3-21. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the audio circuitry with adjustable volume of **Robinson et al** to the visual display of **Adams et al** because combination of both audio and visual data information for use in the aircraft cockpit is very well known in the art to give the pilot a full accessible of command and control the operation functions of the aircraft and of the flight situations, which increases the flight safety.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Adams et al** [US 6,314,343].

Regarding claim 19, **Adams et al** fails to disclose the visually delineating the inset views within the display. However, **Adams et al** teaches that the display screen 4 including a plurality of display screen regions/fields 1-16, 19 and 20 that are activated by bezel soft key banks 6 and 8 for displaying selection flight modes and text data information, see Figs. 1 and 1-4, col. 1, lines 55-67, col. 2, lines 1-36, col. 4, lines 42-67 and col. 5, lines 1-43. Therefore, it would have been obvious to one of ordinary skill in the art to recognize that the display screen with a plurality of display fields of **Adams et al** is functionally equivalent to the claimed delineating the inset view within the display

because each of the text word or messages in each of the display field represents of a particular operation function mode and/or special messages to the pilot for command and controlling of the flight.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Briffe et al discloses one or more overlay regions operable to present dynamic images overlaid on top of one another, wherein a number of overlay regions reside within one or more of the number of displayable regions. [US 6,112,141]

Snyder discloses an aircraft display and control system including a cursor control and selection device, an aero-nautical information database, a geographic database and a plurality of display devices. [US 6,381,519]

8. Any inquiry concerning this communication or earlier communications from examiner should be directed to primary examiner **Van Trieu** whose telephone number is (703) 308-5220. The examiner can normally be reached on Mon-Fri from 7:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. **Danial Wu** can be reached on (703) 308-6730.

The office facsimile number is (703) 872-9314.

Application/Control Number: 10/086,996
Art Unit: 2632

Page 11

A handwritten signature in black ink, consisting of a stylized 'V' followed by a long horizontal stroke that curves upwards at the end.

Van Trieu
Primary Examiner
Date: 5/19/03